

UNITED STATES MARINE CORPS
MARINE CORPS CIVIL-MILITARY OPERATIONS SCHOOL
WEAPONS TRAINING BATTALION
TRAINING COMMAND
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QUANTICO, VIRGINIA 22134-5043

STUDENT OUTLINE

INFORMATION MANAGEMENT

0530-110

CIVIL AFFAIRS OFFICER COURSE

M020A3D

FEBRUARY 2015

LEARNING OBJECTIVES

a. **TERMINAL LEARNING OBJECTIVES**. Given a mission and Commander's intent, manage civil information, ensuring the timely availability of civil information for analysis and the widest possible dissemination of raw and analyzed civil information to the MAGTF and all stakeholders throughout the AO. (0530-EXEC-2001)

b. **ENABLING LEARNING OBJECTIVES**

(1) Without the aid of references, identify foundational terms used in Information Management, in accordance with MCWP 340.2 Ch 1. (CACT-EXE-2001d)

(2) Without the aid of references, identify the categories of shared understanding, in accordance with MCWP 340.2 Ch 2. (CACT-EXE-2001e)

(3) Without the aid of references, define information quality characteristics, in accordance with MCWP 3-40.2 Ch 2. (CACT-EXE-2001f)

(4) Without the aid of references, identify the IM principles, in accordance with MCWP 3-40.2 Ch 3. (CACT-EXE-2001g)

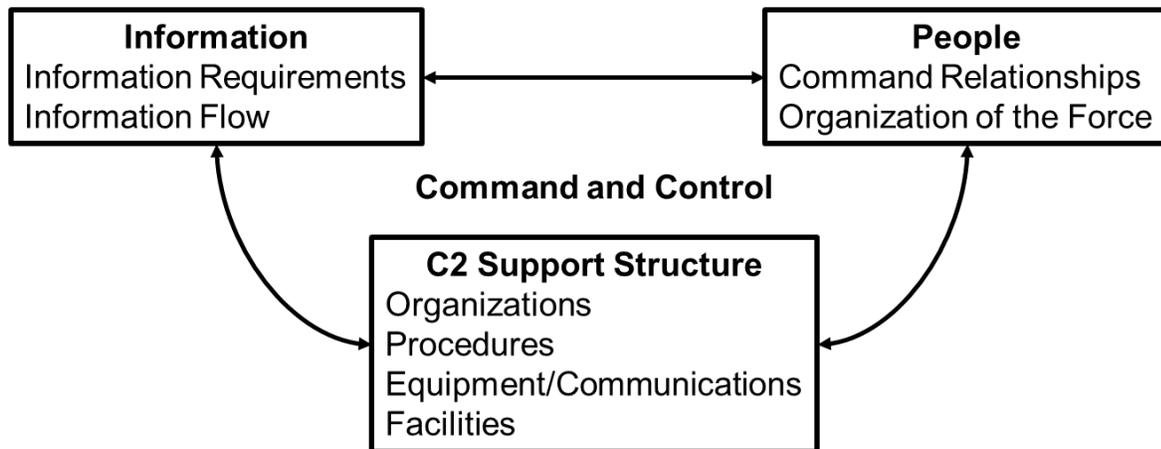
(5) Given a scenario, an IM plan and an IM system, employ IM tools, in accordance with the PE checklist. (CACT-EXE-2001h)

(6) Given a CMOC scenario, interpreter and role players w/scripts, integrate CMOC operations with higher headquarters, in accordance with MCWP 3-33.1 Ch 4. (CACT-EXE-2001i)

1. FOUNDATIONAL IM TERMS

a. Pillars of Command and Control. Information Management (IM) is an enabler of Command and Control. The focus on information management (IM) processes and procedures as a C2 enabler integrating people and technology with efficient processes for improved commander situational awareness and focusing information for decisions at the operational and tactical levels of war. The pillars, also referred to as elements, of command and control are:

- (1) People
- (2) Information
- (3) Command and control (C2) support structure



b. Knowledge Management (KM) Defined. KM is defined as the integration of people and processes, enabled by technology, to facilitate the exchange of operationally relevant information and expertise to increase organizational performance.

c. Information Management (IM) Defined. IM is the sum of the processes for the collaboration and sharing of information. It enables commanders to formulate and analyze courses of action, make decisions, execute those decisions, and adjust plans accordingly. IM considers information a commodity. Information management is more than control of data flowing across technical networks; it covers the entire lifespan of information and centers on commanders and their information requirements.

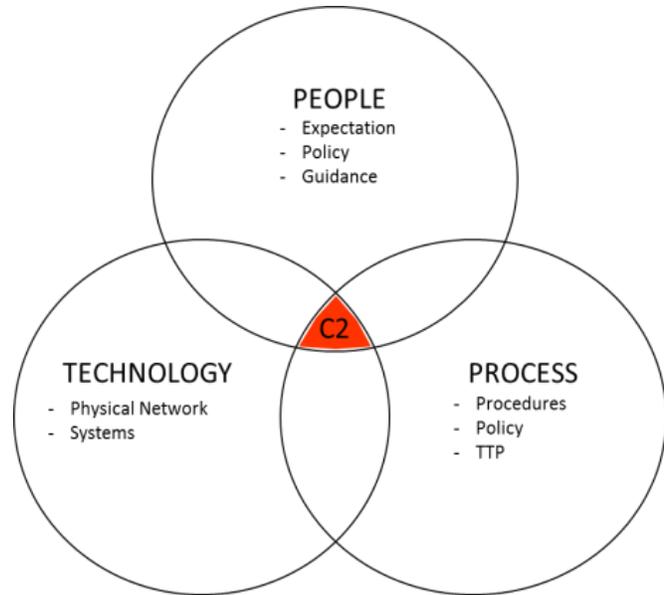
d. **Pillars of Information Management**

consists of three mutually supporting pillars: people, technology, and process.

(1) People (customers and data processors) are the ultimate users of information; they provide expectation, policy, and guidance for the end product.

(2) Technology (hardware and software) is the physical network and systems used by people to collect and process data.

(3) Process (procedures and policy) is the implementation of best practices that integrate the three pillars, provide efficiency, and eliminate duplication for effective information flow according to the operational requirement.



Aligning the three pillars focuses the collaboration or C2 capability (technology) for its intended effect, and helps implement any necessary alternative solutions for integration shortfalls.

2. **KNOWLEDGE SHARING**

a. Knowledge sharing complements the value of IM with processes to create an organizational culture that encourages and rewards knowledge and information sharing to achieve shared understanding.

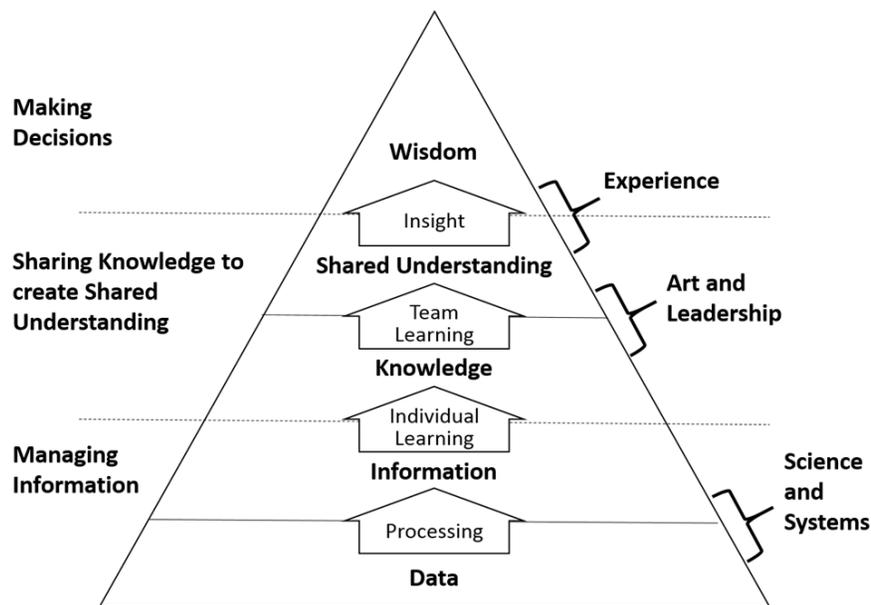
b. **Relationship between Information Management and Knowledge Sharing.** Information management facilitates knowledge sharing as it relates to collecting, filtering, fusing, processing, focusing, disseminating, storing, and using information. Information is then internalized by the individual and fused with personal insights and experiences. As a result, tacit knowledge is brought to bear. Followed by episodes of socialization and collaboration, the free exchange of ideas forms the basis of shared understanding. The products of data, information, knowledge, and shared understanding are merged with

the elements of situational awareness to render the wisdom needed to produce sound decisions. Without quality information management, the exchange of knowledge would be flawed and would degrade the decision-making outcome.

c. **Shared Understanding Categories.** Shared understanding consists of five major categories, also known as the Information Hierarchy:

(1) Data. Raw data are the building blocks of processed information. Elements in this category are rarely meaningful until transformed and processed.

(2) Information. Information is managed to frame its value and relevance throughout the hierarchy to eventually



develop the commander's knowledge and understanding to improve his situational awareness.

(3) Knowledge. Knowledge includes facts, beliefs, truths and laws, concepts, methodologies, know-how, know-why, judgments and expectations, insights, relationships, leverage points, intuition and feelings, meaning and sense making. Knowledge results from analyzing, integrating, and interpreting information; it provides value to an event or situation by linking and refining internalized information and data. Types of knowledge can be further defined as explicit or tacit.

(a) Explicit Knowledge. Explicit knowledge can be called up from memory and put into words and shared. Often, it

is placed into standing operating procedures, lessons learned, intelligence reports, standing orders, and contingency plans.

(b) Tacit Knowledge. Tacit knowledge only resides in an individual's mind. It is knowledge formed by those connections that cannot be pulled up from memory and put into words. The implicit form of this knowledge is often pulled or triggered by memories and portrayed as our visceral reactions to certain stimuli. Tacit knowledge is developed by internalizing explicit knowledge through practical application, feedback from experienced practitioners, and through personal reflection. One notable example of this technique is the Observe, Orient, Decide, Act (OODA) loop. Once observed and identified, it can be trained and practiced to develop one's immediate responses in given situations.

(4) Understanding. Understanding provides context or framing of knowledge. Understanding is an appreciation for not just what is happening, but, more importantly, why it is happening.

(5) Wisdom. Once understanding and clarity of the mental image is achieved, the commander is able to better anticipate future events and make sound decisions, even in the face of uncertainty. To create knowledge, an individual must participate in the process and move processed data from the physical to the cognitive realm. To create understanding, he must integrate knowledge with judgment and experience.

d. Information Quality Characteristics. One challenge is ensuring that information meets the seven characteristics of quality information. Quality information adds value to the decision-making process. In the face of uncertainty, information managers must consider the information quality characteristics outlined below:

ACCURACY	Information that conveys the true situation
RELEVANCE	Information that applies to the mission, task, or situation at hand
TIMELINESS	Information that is available in time to make decisions
USABILITY	Information that is in common, easily understood format and displays
COMPLETENESS	All necessary information required by the decision maker
BREVITY	Information that has only the level of detail required
SECURITY	Information that has been afforded adequate protection where required

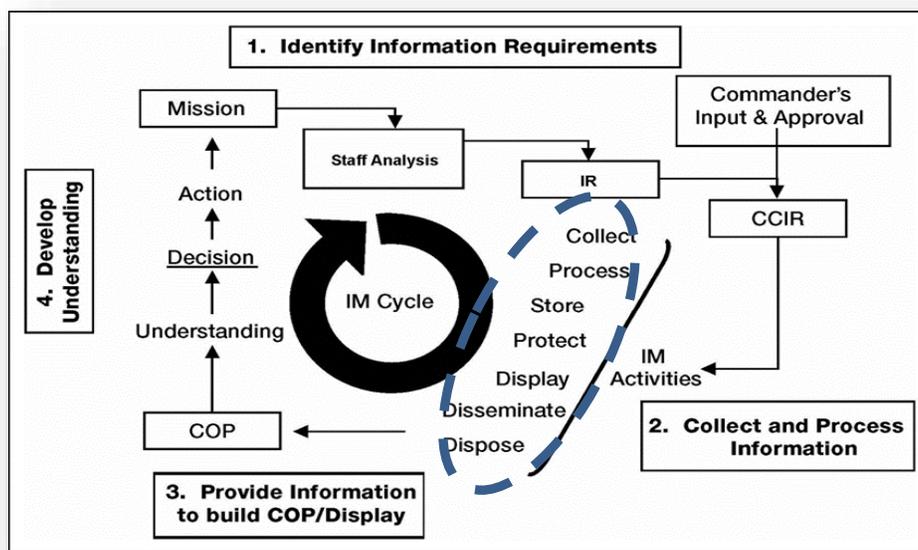
e. **Situational Awareness.** Situational awareness is the knowledge and understanding of the current situation that promotes timely, relevant, and accurate assessment of friendly, enemy and other operations within the battlespace in order to facilitate decision-making. Situational awareness includes:

- (1) Understanding of the physical environment.
- (2) Comprehension of people's purposes and movements relative to their physical environment.
- (3) Ability to anticipate the impact of future actions within the environment.

f. **Goal - Shared Situational Awareness.** By overcoming information challenges and producing quality information, information should meet the goals of accuracy, relevance, and timeliness.

3. **INFORMATION MANAGEMENT (IM) PROCESSES AND PROCEDURES.**

Information management is more than control of data flowing across technical networks; it covers the entire lifespan of information and centers on commanders and their information requirements. In order to plan, organize, and implement information management, a command information management plan is developed which describes how the MAGTF will execute this function. Each element in the MAGTF and MAGTF staff section in turn develops an information plan tailored to its needs but nested within the command information management plan.



a. **Information Management Activities.** Information Management encompasses seven basic activities: collecting, processing, storing, protecting, displaying, disseminating, and disposing of information. This set of simultaneous activities should be covered in detail in an information management plan.

b. **Information Management Principles.** Information management principles frame C2 solutions. The principles discussed below provide a foundation for shaping and prioritizing IM activities. They are relevant, regardless of the situation or mission and should be used to guide how the processes and procedures in a good information management plan are developed.

(1) Define the Information Flow with Prioritized Requirements. Command relationships, force organization, mission, and information requirements influence the flow of information.

(2) Seek and Deliver Quality Information. Information must be accurate, complete, and relevant in order to obtain knowledge and understanding. To accomplish this, information requirements should be determined as early as possible in the process.

(3) Use Multiple Sources of Information. Whenever possible, at least two sources of information are used in order to ensure an accurate picture. Using multiple redundant sources to gather and process data helps validate findings on the battlefield by allowing a venue to compare collected information and identify discrepancies.

(4) Deliver Timely and Usable Formats. Information delivered late is of no value to the decision-maker; the time for decision having passed. The goal is to deliver the information that is available when it is needed and in a form that is readily understandable to the commander for decision.

(5) Identify and Trap Errors. Procedures must be in place to identify sources of errors and to trap those errors through procedures that compare, validate, or verify data accuracy throughout its lifecycle, particularly when used in mission-critical or safety-of-life processes or applications. This is especially important when unstructured and non-secure information exchange mediums (like NIPR) are employed.

(6) Protect Information throughout its Lifecycle.

Information is at risk from the moment it is collected until it is no longer of any value; moreover, the nature of the threat to that information varies throughout the information lifecycle. Potential threats include not only overt actions on the part of external actors, but also failures on the part of data owners to properly implement and manage the information through its lifecycle.

(7) Build Understanding from the Bottom Up. The nature of recent conflicts has forced a refocus and reconsideration about the value of, priority of and effort invested in information. Warfighters must now attempt to make sense of the actions of many actors, whether they are the enemy or those operating according to other interests. Their actions and intentions may be those of external elements, political leaders, tribal or local elders, insurgents and non-combatants. Often, the best information will come from the many "strategic corporals" who have boots on the ground. Information management processes must support these contributors and capture their situational awareness to provide understanding at the operational and strategic levels.

(8) Decentralize Information Management Execution. In order to maximize the ability to reliably and rapidly process and disseminate information to the intended audience, IM activities should be decentralized to the greatest degree possible while maintaining effective control. Though technology by its nature is centralized, centralization of IM activities creates bottlenecks that restrict information flow. These bottlenecks occur when too much information is delivered solely to a key node (whether people or technology) and result in backlogs for information processing and dissemination.

(9) Reduce Complexity. While complexity cannot be avoided completely, it must be minimized so that people can focus on the information rather than on the tool or devices being used to present the information.

(10) Tailor Information for Intended Audience. Information increases in value when formatted or tailored for the audience. Tailoring presentations and visualizations accelerates the process of moving from raw data to decision-maker understanding. On the other hand, general or unformatted information frustrates and delays decision-making, requiring leaders to translate data into a consumable format to achieve understanding before critical decisions can be made.

(11) Set Conditions for Information Development and Sharing. The ultimate goal of information management is to provide a process to enable the user to leverage C2 systems that empower personnel with relevant skills to understand and shape battlespace (see the battlespace clearly) and recognize, collect and share critical information with decision-makers in order to defeat opponents.

c. **Information Management Roles**

(1) Command Information Management Officer (IMO). At the command level, there should be an Information Management Officer. This individual, ideally a special staff officer with the Chief of Staff or XO's backing, designs and implements the command information management plan. The command IMO should not be solely responsible for designing and implementing each staff sections IM plan. The IMO does not own any processes or procedures for the personnel he supports; rather, he improves staff and MAGTF process efficiencies.

(2) Staff Section Information Manager. Each principal staff section, and any other element of the staff as required, should have an Information Management representative called the Staff Section Information Manager (e.g. G9 Staff - Civil Information Management Officer). This representative coordinates with the IMO in order to develop and implement his respective staff section's information management plan.

(3) Civil Information Management Coordinator (JCIM). For Civil Affairs sections outside of the MAGTF, the term "Joint Civil Information Management Coordinator" is sometimes used, this is basically the same as a Staff Section Information Manager. At the JTF, a JCIM coordinator provides the J9 and stakeholders with geospatial support. In the MAGTF, this role would be filled by other assets, such as the Geospatial intelligence section, and not by the G-9 IM representative.

4. **INFORMATION MANAGEMENT PRODUCTS AND TOOLS**

a. **Reports Matrix**. The reports matrix is a chart of reports provided by subordinate and higher entities in order to coordinate a flow of predictable information for both routine and immediate notification. There is no doctrinal format for the reports matrix, but it should include the time the report is due, period of time covered, priority, classification, recipient, author, format, means of transmission, and comments/

requests/recommendations. Reports require a coordinated rhythm as senior headquarters collate subordinate information in reports to HHQ. As reports move through the command structure, information is confirmed and fused for verification/validation. An effective reports matrix is a powerful planning tool to support execution, verify information, and correct the source of information flow problems. A carefully designed reports matrix significantly enhances the efficiency and effectiveness of staffs and decisionmakers.

b. **Battle Rhythm.** The battle rhythm is a schedule of key daily events that involve the commander, staff, and subordinates. These events can include Boards, Bureaus, Cells, Centers, and Working Groups (B2C2WGs), staff briefings, updates, and visits. The purpose of the battle rhythm is to frame the organizational schedule and facilitate the integration of various events. The C/S or XO is responsible for the battle rhythm, but often delegates the responsibility to IMOs who publish and disseminate the battle rhythm. Commanders and staff officers are responsible for identifying events to be placed on the battle rhythm. The battle rhythm is often the backbone of staff and subordinate coordination and decisionmaking. There is no doctrinal format for a battle rhythm.

c. **Commander's Critical Information Requirements (CCIRs).** A CCIR is an information requirement identified by the commander as being critical to facilitating timely decision making. The two subcategories of CCIRs are priority intelligence requirements (PIRs) and friendly force information requirements (FFIRs). These information requirements represent the commander's determination of his critical information requirements during each phase of a campaign. Combined with a Decision Support Matrix (DSM), CCIRs can focus an organization for relevant response based on strategic opportunity. The requirements can frame information collection and analysis as well as form the basis of response, shaping the battlespace. The CCIRs have the following functions:

(1) Reduce the information gaps generated by uncertainties that the commander may have concerning his own force, the adversary, or the environment that he has identified as necessary to maintain situational awareness, plan future activities, and facilitate his ability to make timely decisions.

(2) Focus the staff on the processed data and knowledge the commander needs for making key decisions (particularly during the course of an operation), reduce information needs and

raw data to a manageable set, and ensure that key information requirements are not inadvertently filtered out.

(3) Define the information required by the commander to better understand the battlespace and to identify risks as well as to make sound, timely decisions in order to retain the initiative.

d. **Decision Support Matrix (DSM)**. The DSM identifies key decision points and actions decided upon by the commander during the preceding planning phase. A DSM can be depicted graphically or in table format to frame an action or operation and to time or vary a response. Decision points are annotated throughout the DSM for commander control of the effort. A DSM can be used at all levels of a command and is a very helpful tool in the planning phase of an operation.

e. **Requests for Information**. Requests for information are specific, time-sensitive, ad hoc requirements for information or products to support an ongoing crisis or operation not necessarily related to standing requirements or scheduled intelligence production. The RFIs are generated to answer questions that cannot be resolved with organic assets, and when the information does not exist within internal databases or cannot be satisfied by resident subject matter experts.

f. **Journals and Logs**. Journals and logs represent the chronological record of activity for a unit. For units engaged in contingency operations, the importance of accurate journals and logs cannot be overstated. The unit commander should direct that a command journal be maintained in the operations center and that general staff sections maintain their own journals. The value of accurate journals goes beyond historical analysis and keeps the commander and his staff up to date on significant activities and significant events (SIGEVENTs). These products can be used for analyzing operations, extracting lessons learned, and investigating, when requested.

(1) **CMOC Journal**. The CMOC journal is a tool that CA Marines can use to build continuity between other CA units, higher headquarters, other USG and DoD agencies, and other agencies and organizations as appropriate. Although there is no particular format for a CMOC journal, there are some techniques used to put the civil information gathered into a useful format:

(a) Arrange journal chronologically with daily, weekly, and monthly calendars showing essential tasks.

(b) Record actions taken and POCs for ongoing projects.

(c) Take photographs of projects, POCs, meeting facilities, and other items (for example funding) pertinent to conducting CMO, and include them where appropriate in the journal.

(d) Provide enough detail (who, what, when, where, why and how) to each task to eliminate guesswork on civil information gathered from CA Teams.

(e) The civil information consolidated in a journal will typically consist of assessments, spot reports, after action reports (AARs), lessons learned, and CMO reports from supporting CA elements, as well as additional information from other stakeholders. If at all possible try to keep your information unclassified. Some elements of civil information to be put in the journal may include, but are not limited to:

1. Attitude of the population, including ideological, religious, and cultural aspects.

2. Government structure, including forms, personalities, existing laws, and political heritage.

3. Educational standards and facilities.

4. Important cultural activities and repositories.

5. Communications, transportation, utility, power, and natural resources.

6. Labor potential, including availability by type and skill, practices, and organizations.

7. Economic development, including principal industries, scientific and technical capabilities, commercial processes, banking structure, monetary system, price and commodity controls, extent and nature of agricultural production, and accustomed population dietary habits.

(f) The civil information should be entered into a central database, through the knowledge management system and shared with the supported unit, higher HQ, other USG and DOD

agencies, and other agencies and organizations, as appropriate. CMOC journals may be used to conduct analysis of ongoing operations to provide the supported G-9 or S-9 with recommendations on resource utilization.

(g) Coordination among other elements ensures the timely availability of information for analysis and the widest possible dissemination of raw and analyzed civil information to all levels throughout the AO. For example; the magnitude of the emergency during the Haiti Earthquake in 2010 and the outpouring of multinational assistance required the rapid organization and deployment of a Humanitarian Assistance Coordination Center (HACC) to ensure appropriate coordination of HA/DR activities.

g. **Information Management Plan (IMP)**. The information management plan is not just a set of procedures; it is an expression of the commander's concept for managing and controlling information. It assigns specific responsibilities for all those who will manage information, which for civil affairs includes everyone from individual CA team members up to the S/G-9 staff principal.

(1) The plan should cover all three command and control elements.

(2) An effective IMP provides guidance to ensure quality information is provided to those who need it in a form they quickly understand. The IMP should cover C2 filtering tools, unique IM personnel needs (duties, responsibilities, and skill requirements), C2 structure requirements (processes and procedures), and C2 system protection. The IMP should include specific guidance for management of the Common Tactical Picture (CTP), Commanders Critical Information Requirement (CCIR), collaborative planning system, and network applications used to share critical and relevant information.

(3) The Command IM Plan should be a collaborative effort amongst all staff sections, with the Staff Section Information Manager's working closely with the Information Management Officer in the plan development. A good IM plan will be flexible enough to allow the command to "plug in" to joint and combined operating environments.

(4) The plan should be routinely practiced in garrison; it basically becomes the Command IM SOP. The IM Plan should not be designed to fit garrison requirements only. The ideal is that the plan mirrors the ways the unit intends to operate in

the field. The plan is a living document; and should be reviewed, tested and refined on a regular basis.

(5) The plan should cover two basic techniques for making information available to users: Information "push" and information "pull". Information "push" is the flow of information from the source to the user; information pull means the information remains with the source until the user asks for or accesses it, such as from a website.

Each technique has an appropriate role in an IM plan. Often, most information is handled using a combination of these techniques. An example of this is posting a Fragmentary Order to the MAGTF SharePoint site (requires users to "pull" information) while at the same time "pushing" out an e-mail alerting users to the FRAGO issuance and telling users where to access it on the SharePoint site.

(6) Continuity. A good plan should include backup and "continuity" of operations procedures that do not rely on digital technology and associated power requirements. This allows the MAGTF to continue the fight even if there is a catastrophic system, network, power, or physical infrastructure event.

(7) Security. The plan also should provide for physical, information content, computer hardware, and communications network security.

(8) Train like you fight. The IM plan should be the unit baseline set of procedures practiced in garrison. When the unit transitions to an operational environment, it may not be able to transition the information plan exactly as written or practiced. This is where the Annex U: Information Management of an operations order or operations plan comes into play.

h. **Annex U: Information Management**. An Annex U amplifies the contents of an existing IM plan. It provides updates and modifications to execute information management in a particular operation or exercise.

(1) A well written Annex U typically provides exercise or operation specific information for:

(a) Requests For Information (RFI) Management Procedures

- (b) CCIR Management Procedures
- (c) Intranet/Internet Management
- (d) Use of specific Collaborative Tools
- (e) Daily Battle Rhythm/Reports Matrix
- (f) Assessment Plan support

(2) Each of these is often driven by the service or national policies and procedures of the MAGTF's higher headquarters. This is why it is important to build flexibility into the command IM Plan and staff section IM procedures, so that they can be readily adapted to joint and combined environments.

5. **CMOC INTEGRATION WITH HHQ.** Where possible the CMOC synchronizes and integrates CMO with the U.S. interagency, IGO, NGO, IPIs and private sector activities along with MAGTF operations. According to Joint Publication (JP) 3-57, Civil-Military Operations, the purpose of CMO is to facilitate military operations, and to consolidate and achieve operational U.S. objectives, through the integration of civil and military actions while conducting support to civil administration (SCA), populace and resources control (PRC), foreign humanitarian assistance (FHA), nation assistance (NA), and civil information management (CIM). The civil aspect of the operational environment, by its very nature, changes rapidly, though certain things remain constant, such as the need to thoroughly integrate CMO into MAGTF operations. Much of this integration can be done through the G-9 and the CMOC.

a. The civil dimension of the operating environment must be considered and integrated into all MAGTF operations. CA Marines at the CMOC are expected to be SMEs on the civil dimension of the operating environment and should be active participants in all CMO planning efforts by the MAGTF. The CMOC must be able to identify assets that can be used in a CMO role, where those assets are located, and then be able to integrate their operations and those assets into the overall plan the MAGTF has for CMO.

b. CA Marines may also be required to perform limited local governance, integrating the efforts of other supporting/ contributing multinational, interagency, IGO, or NGO participants until legitimate local entities are functioning.

This includes providing or assisting in the provision of basic services to the population. The CMOC has the ability to shape these CMO tasks and to facilitate humanitarian relief and restoration of civil order and services as the emphasis may shift from relief to reconstruction. These efforts, integrated into the MAGTFs plan, will enable the transfer of authority that takes place in Phase V (Enabling of Civil Authority).

c. Lastly, CMOC personnel are also planners and executors. As SMEs, they consider the impact the civil component has on military operations and vice versa. The G-9 ensures that the MAGTF staff integrates CMO throughout the MCPP as part of the MAGTF single-battle concept.

REFERENCE:

MCDP-6 Command and Control
MCWP 3-40.2 Information Management
Joint Civil Information Management User's Manual
C2TECOE Information Management Reference Guide
JP 3-0 Joint Operations

